

# Damage Assessment Team



Major D. H. Dubbs  
Aviation Ground Support



This Presentation is:  
UNCLASSIFIED



# Purpose

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- Identify basic threats to an airfield and likely damage that can be expected at our FOBs resulting from enemy attack
- Describe what DATs are and discuss their responsibilities during BRAAT
- Familiarize you with the NATO Pavement Reference Marking System used by the DATs to report UXO and damage info

# Enabling Learning Objectives

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- Identify and organize key members of a DAT
- Identify general threats to an airfield
- State what information DATs report
- Identify equipment DATs require
- Understand and plot runway damage using the NATO Pavement Reference Marking System



# Potential Threat

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- Threat information available in the
  - STANAG 2929 (Classified document)
  - Various air base operations orders
  - Unit or higher HQ intelligence sections



# Threat Munitions

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- Commanders may have to contend with
  - Conventional GP bombs
  - Runway crater munitions
  - Scatterable mines
  - Anti-personnel submunitions
  - Area denial munitions such as chemical or biological munitions



# Threat Methods of Delivery

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- Aircraft
- Tactical missiles
- Ground artillery
- Projectiles (mortars)

# Expected Damage Areas

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- Airfield surfaces
- Permanent structures
- Communications facilities
- Utilities





# Pre-Attack Preparation

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- All resources dispersed and hardened
- Personnel have protective shelters
- Equipment and vehicles hardened
- Increased defensive posture
- Stockpiles of repair materials



# Pre-Attack Preparation

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- Pre-attack estimated damage to repair
  - Craters
    - Twelve craters
    - Six on both runways and taxiways
    - Average size is 35 feet in diameter
  - Spalls
    - 400 throughout airfield
    - Average size 2-5 feet in diameter



# Post Attack

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- Damage Assessment
- Minimum Operating Strip (MOS) Selection



# DAMAGE ASSESSMENT



# Damage Assessment

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- AF post-attack damage assessment provided by Damage Assessment Teams (DATs) and Damage Assessment Response Teams (DARTs)
- Today's focus = DATs

# Damage Assessment Team (DAT)

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- Runway damage and UXO assessment done at same time to shorten overall assessment and restoration time
- DAT organized to conduct both

# Damage Assessment Team (DAT)

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- Number of DATs depends on situation and area to cover
- Recommend the following minimum number of teams for size of FOB:
  - Main Base = four teams
  - Air Facility = two teams
- Reports information to the Minimum Operational Strip (MOS) Selection Team in the AGSOC

# Damage Assessment Team (DAT)

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- Recommend seven man teams
- Personnel:
  - Team Leader
  - Two EOD Technicians
  - Radio Operator / Driver
  - Spall Assessor
  - Two Crater Damage Assessors



# Damage Assessment Team (DAT)

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- Team Leader
  - Familiar with concrete and asphalt surfaces
  - Usually a Combat Engineer
- Radio Operator / Driver
- Spall Assessor
  - Determines number of spalls
  - Determines size and type of spalls
  - Records location of spall fields

# Damage Assessment Team (DAT)



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- EOD Technicians
    - Identifies types of UXO
    - Records location of UXO and bomblet fields
    - May substitute EOR AGENT for EOD due to limited EOD available
  - Crater Damage Assessors
    - Determine the number of craters
    - Determine apparent diameter of craters
    - Records location of craters



# Damage Assessment Team (DAT)

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- EQUIPMENT
  - Airfield Map

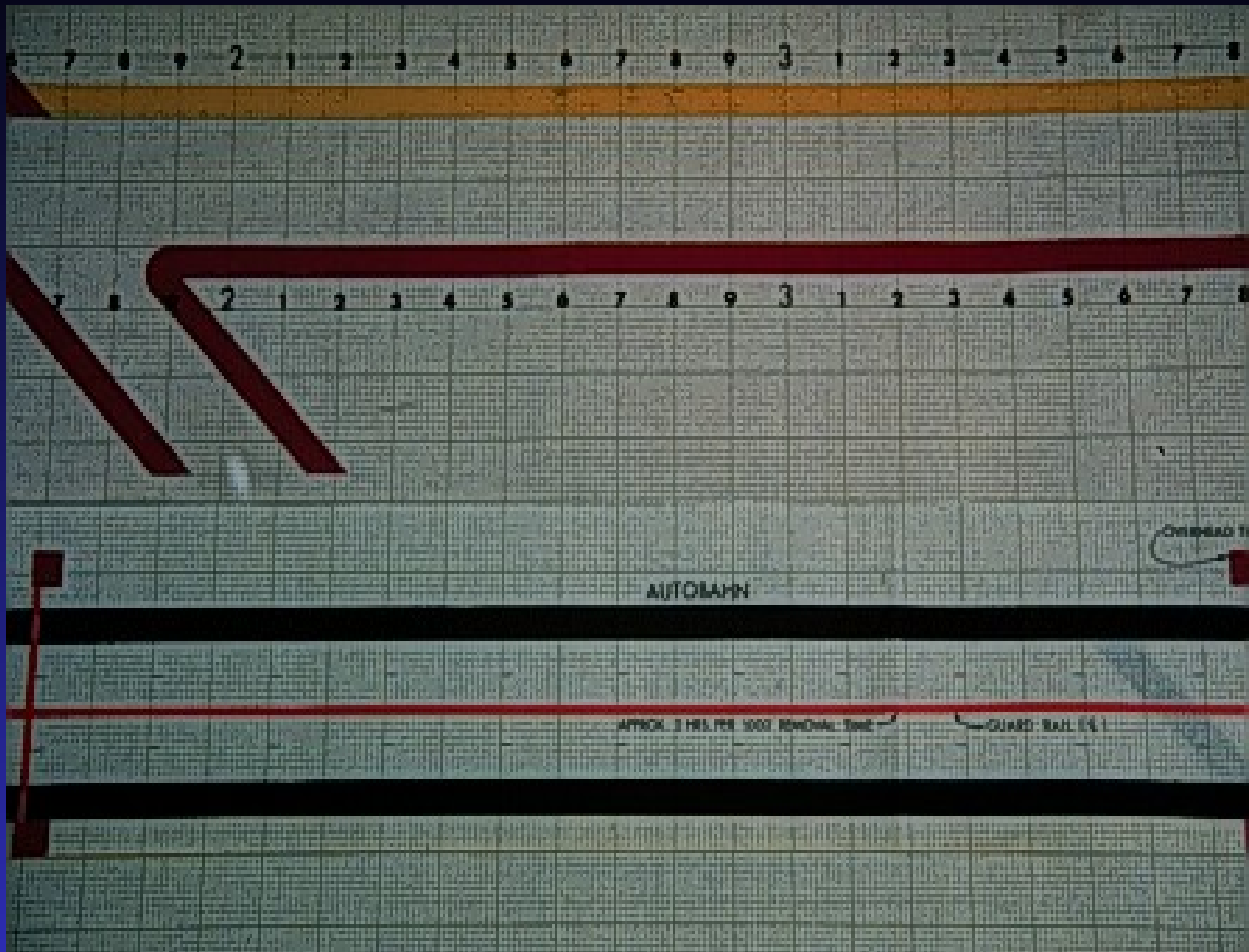


# Damage Assessment Team (DAT)

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- EQUIPMENT
  - Airfield Map
  - A 1":100' scale map of surfaces assigned



# Damage Assessment Team (DAT)

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- EQUIPMENT

- Airfield Map
- A 1":100' scale map of surfaces assigned
- DAT and MOS Selection Team Record Sheet





## DAT AND MOS SELECTION TEAM RECORD SHEET

CRATER NUMBER	TYPE OF DAMAGE	DISTANCE DOWN RUNWAY	LEFT/RIGHT CENTERLINE	CRATER DIAMETER	NUMBER SPALLS	COMMENTS

# Damage Assessment Team (DAT)

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- Equipment
  - Airfield Map
  - A 1":100' scale map of surfaces assigned
  - DAT and MOS Selection Team Record Sheet
  - Hardened Vehicle





# Damage Assessment Team (DAT)

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- Equipment
  - Airfield Map
  - A 1":100' scale map of surfaces assigned
  - DAT and MOS Selection Team Record Sheet
  - Hardened Vehicle
  - Radios



# Damage Assessment Team (DAT)

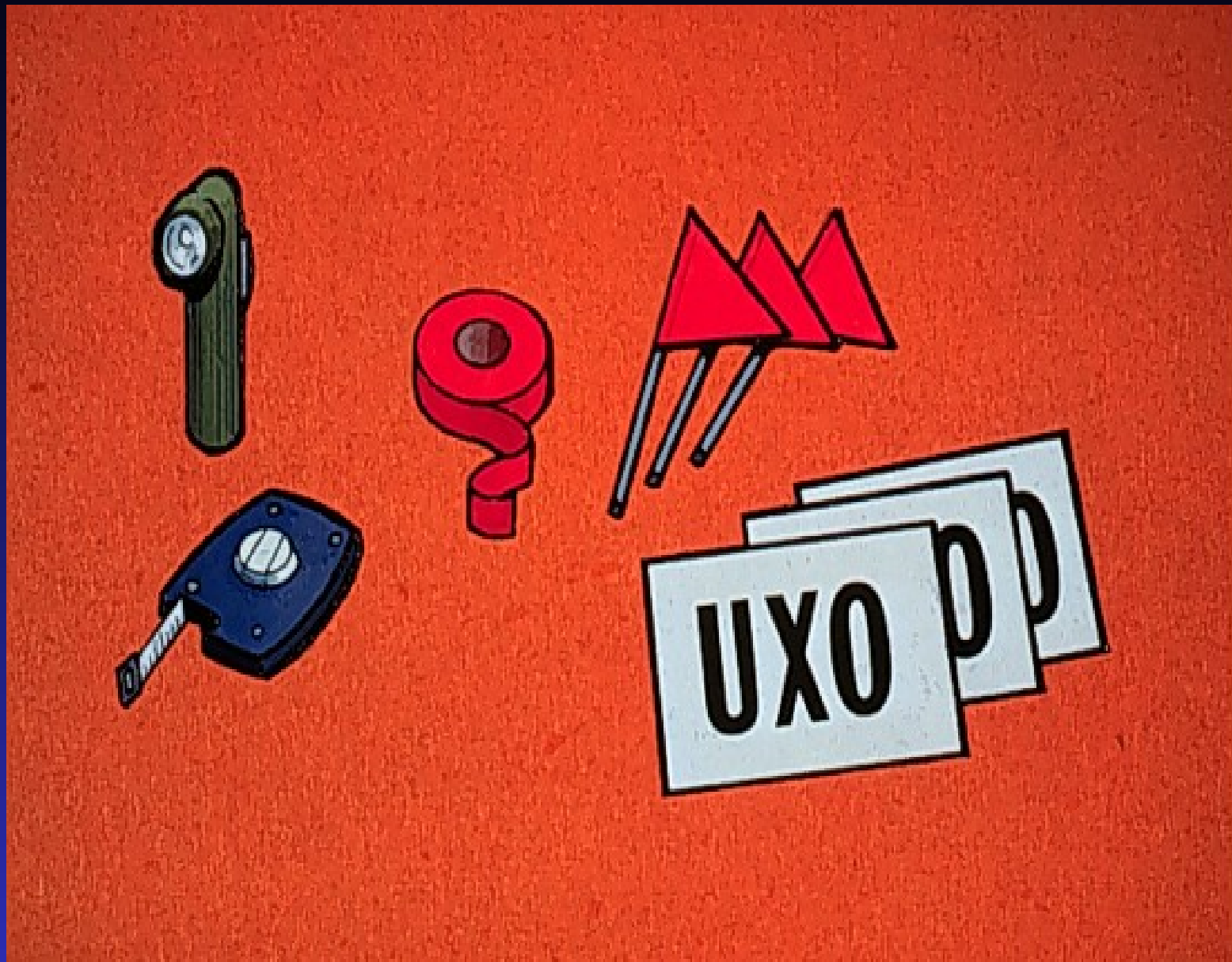


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- Equipment

- Airfield Map
- A 1":100' scale map of surfaces assigned
- DAT and MOS Selection Team Record Sheet
- Hardened Vehicle
- Radios
- 100' Measuring Tape, Marking Stakes and Engineer Tape









# Damage Assessment Team (DAT)

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- Equipment
  - Airfield map
  - A 1":100' scale map of surfaces assigned
  - DAT and MOS selection team record sheet
  - Hardened vehicle
  - Radios
  - 100' measuring tape, marking stakes and engineer tape
  - Personal protective gear





# DAT Reporting

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- DATs report:
  - UXO









# DAT Reporting

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- DAT report:
  - UXO
  - Spalls and Craters







# DAT Reporting

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- Spalls
  - Under five feet in diameter
  - Do not penetrate the base course
- Small Craters
  - Usually 5-20 feet in diameter
  - Possible pavement upheaval
- Large Craters
  - Exceed 20 feet in diameter
  - Pavement upheaval



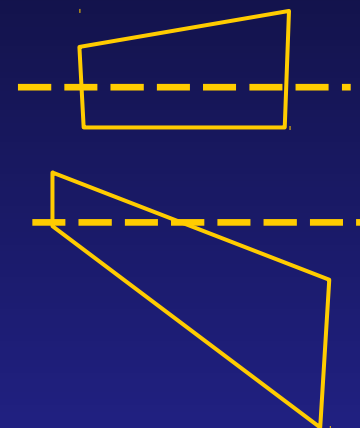
# DAT Reporting

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- Report apparent crater diameter
- Crater depth is optional
- Crater locations aids
  - Mark runway and map at 100 foot increments
  - Markers can not interfere with air operations
  - Paint distances on runway
- Record locations using the NATO Pavement Reference Marking System

## Point Plot

## Area Plots



**C - CRATER**  
**X - UXO**  
**S - SPALL**  
**B -**  
**BOMBLET**

# Location Reporting Keys



- V-WWWW-X-YYY-ZZZ
  - "V" denotes damage type
    - C = Crater
    - X = UXO
    - S = Spall
    - B = Bomblet
  - "W" denotes distance down runway from zero starting point
    - Can be in feet or meters (recommend feet)
    - Must be consistent

# Location Reporting Keys

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- V-**WWWW**-X-**YYY**-**ZZZZ**
  - "X" denotes damage in regards to runway centerline
    - L = Left of centerline
    - R = Right of centerline
  - "Y" denotes damage distance from centerline in feet or meters (consistent)

# Location Reporting Keys



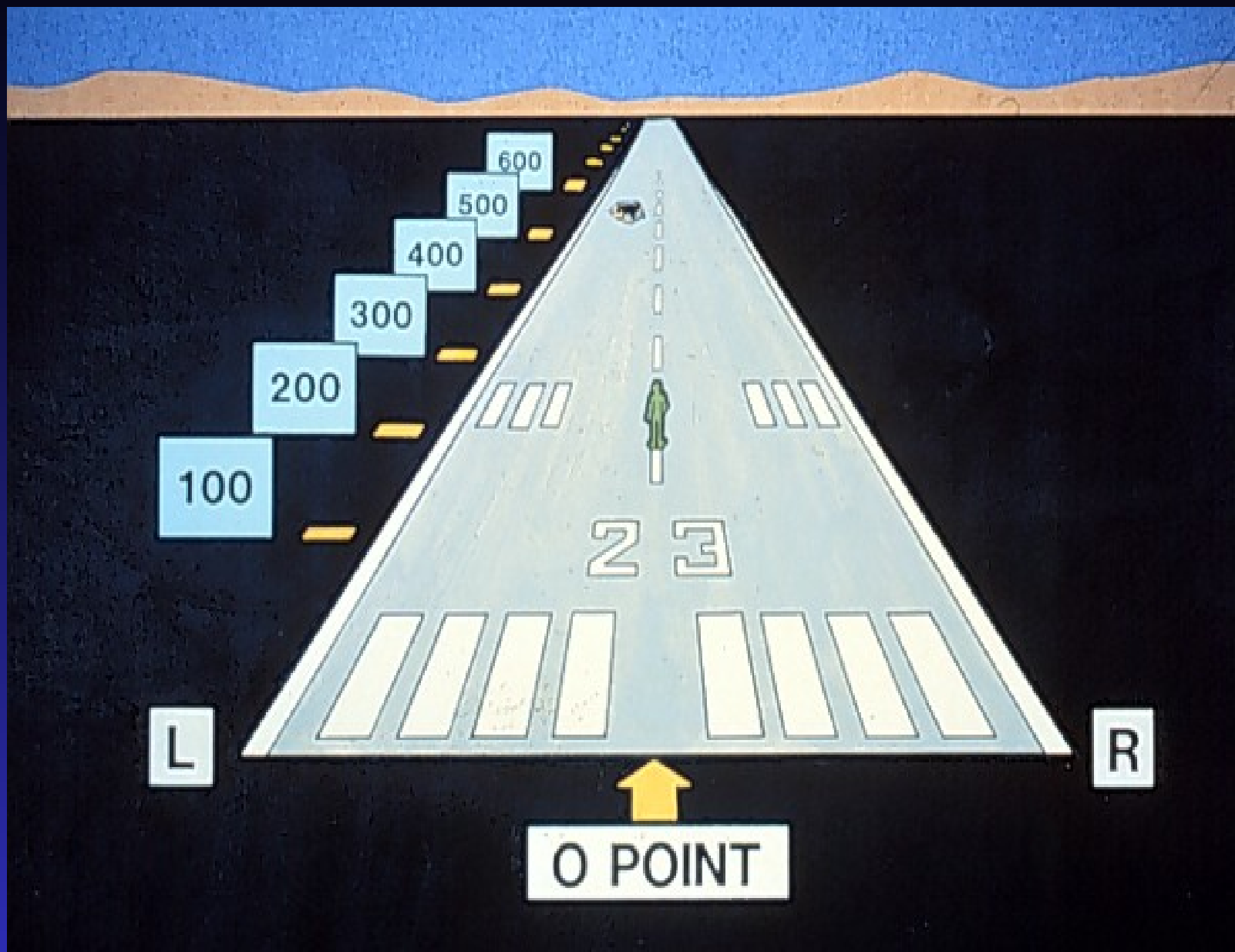
- V-WWWW-X-YYY-ZZZZ
  - "Z" denotes important damage information
    - For Craters: "D" and apparent diameter
    - For UXO: "X" and description of UXO
    - For Spalls and Bomblets: "W" (width identifier) and width of front edge; Place an "F" (field identifier) and repeat WWWW-X-YYY-ZZZZ cycle to show the rear edge of field; at very end place an "N" (number identifier) and the number of spalls / bomblets
    - For Bomblets: Provide a description after number

# Location Reporting Example

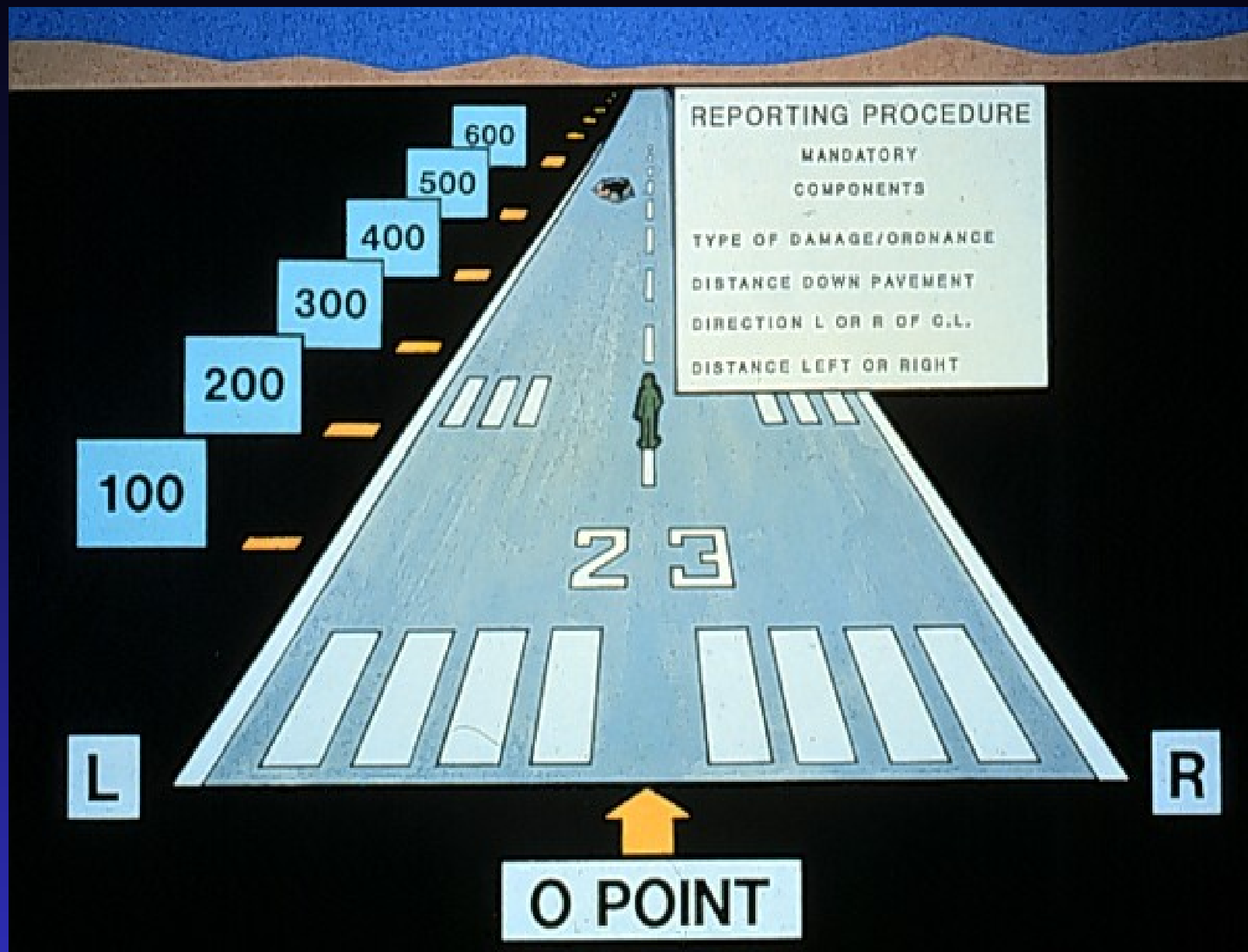
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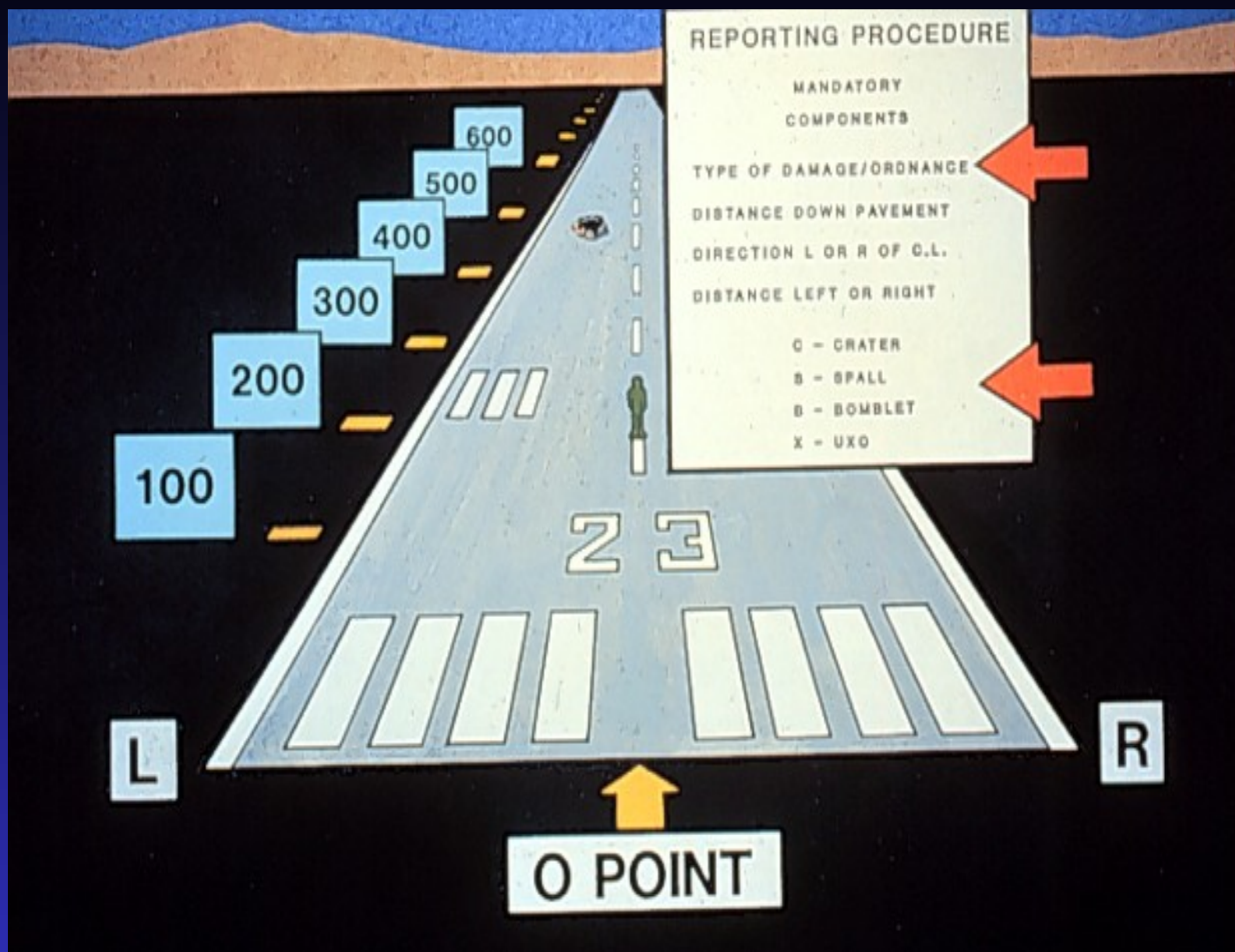


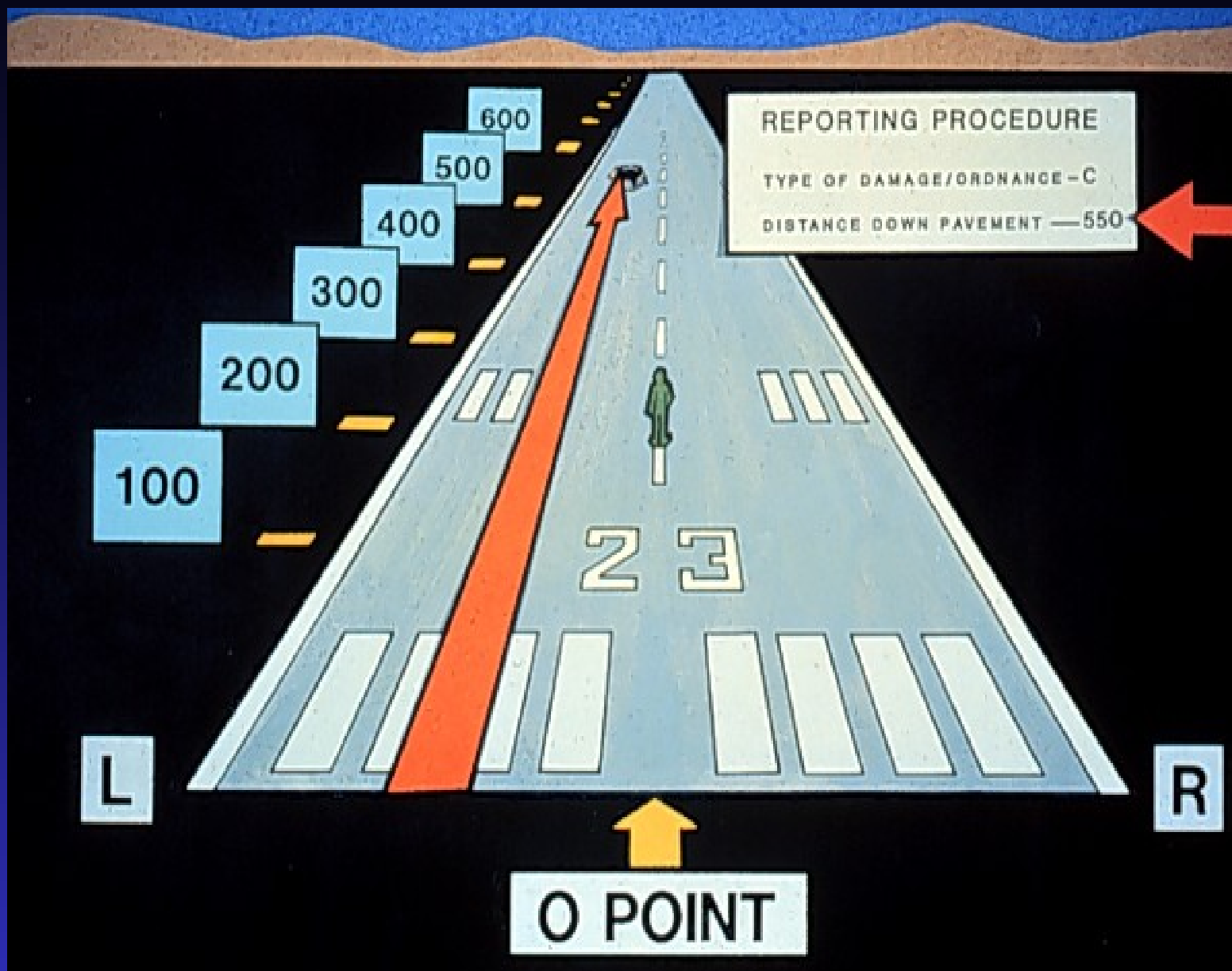
- The following is an example of how to use the NATO Pavement Reference Marking System

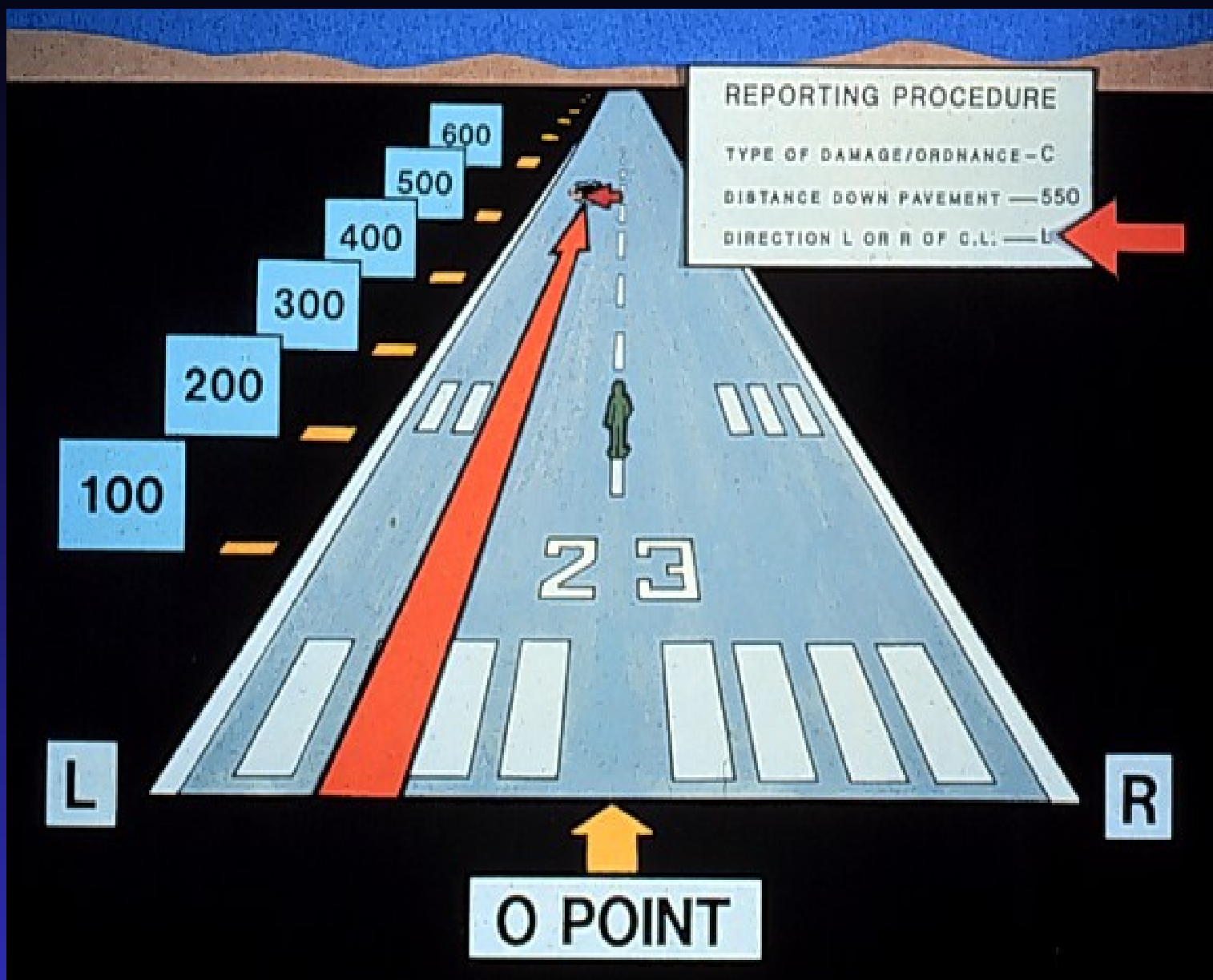


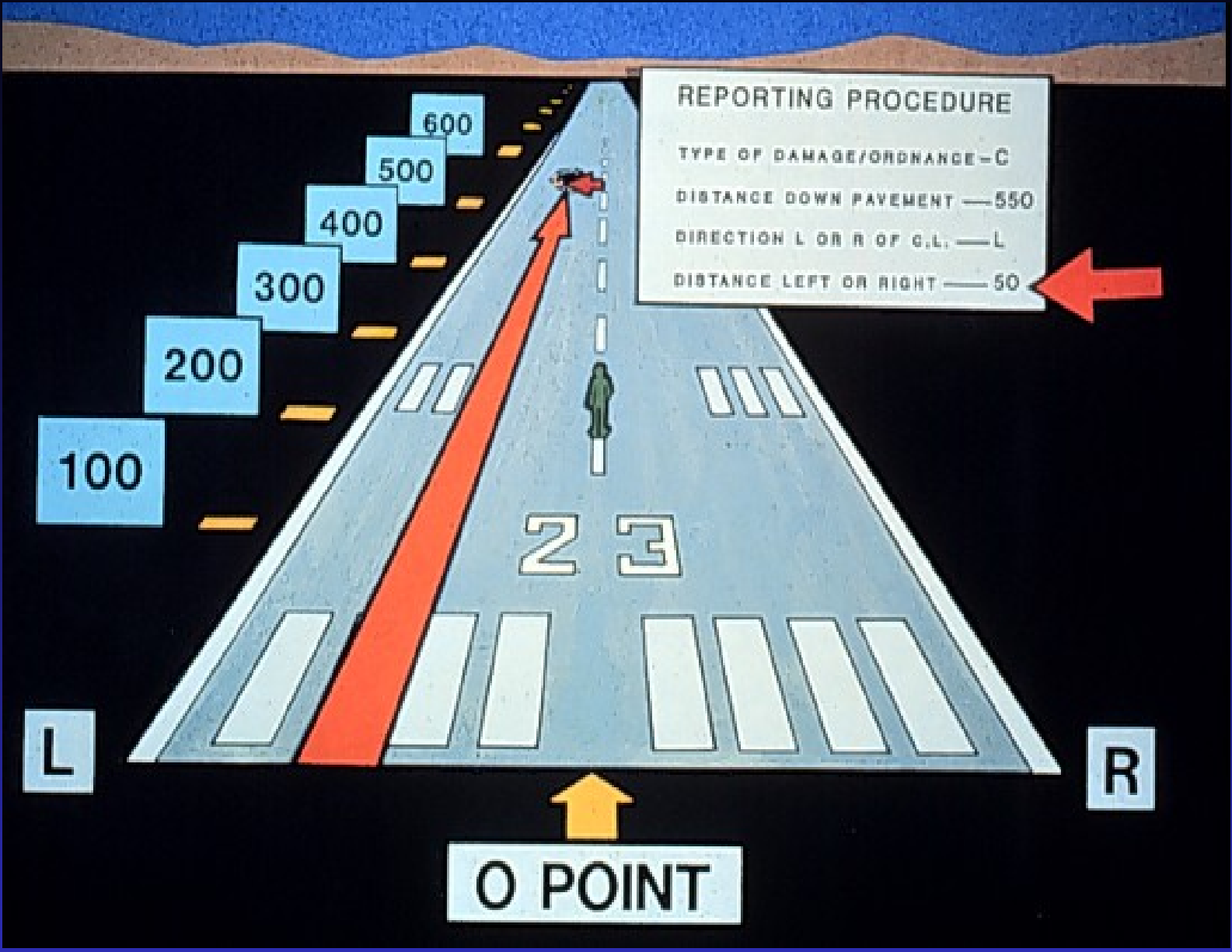


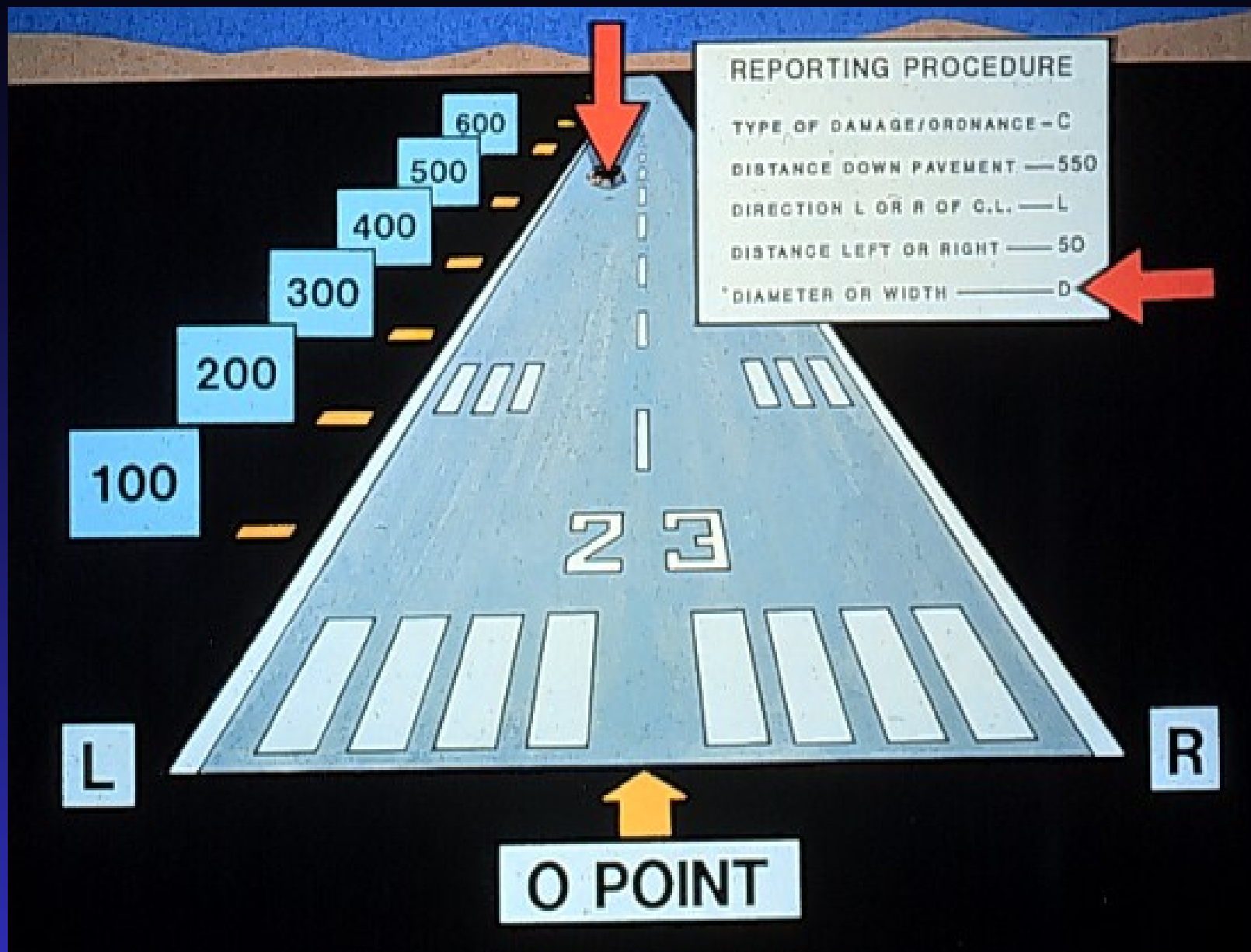




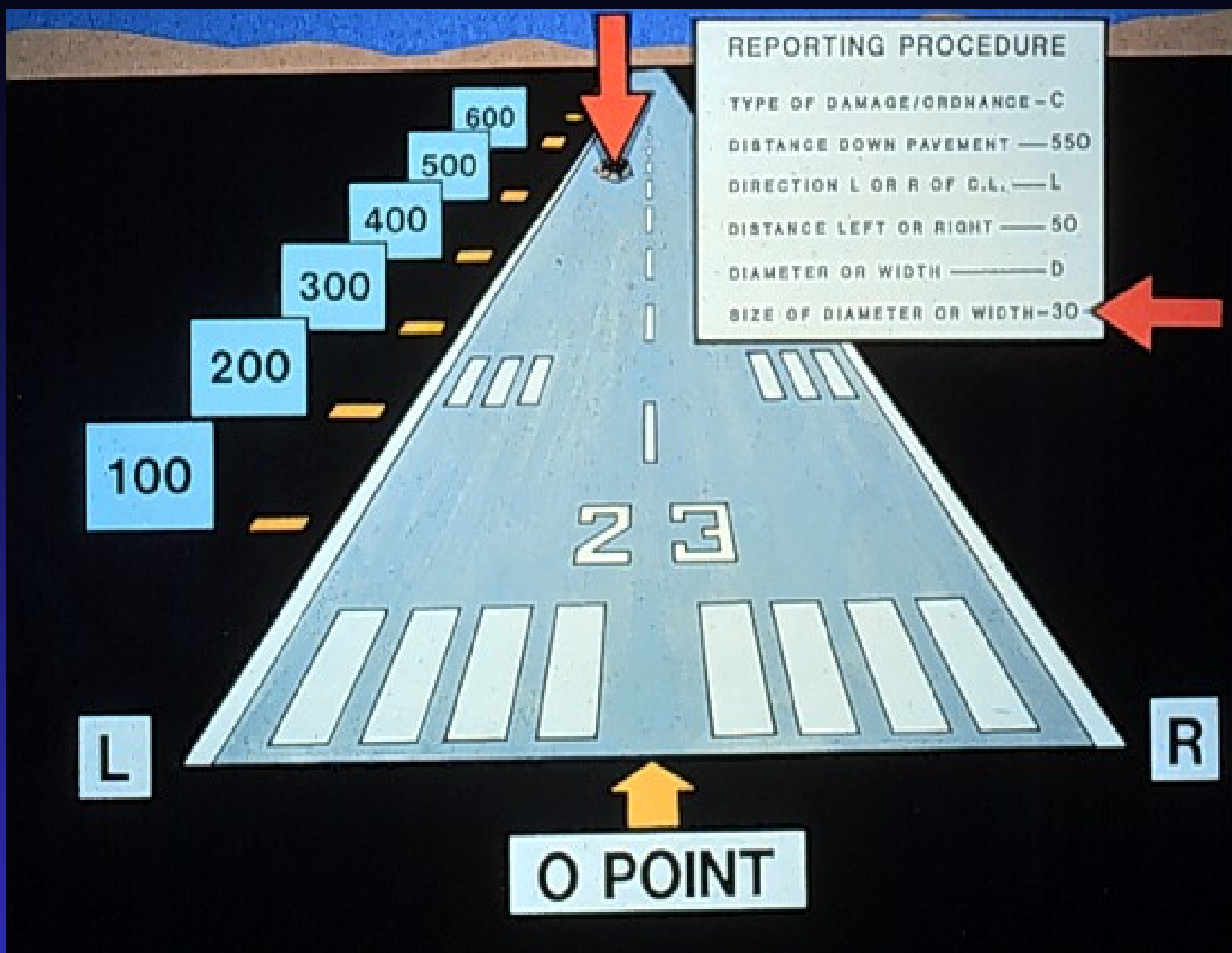


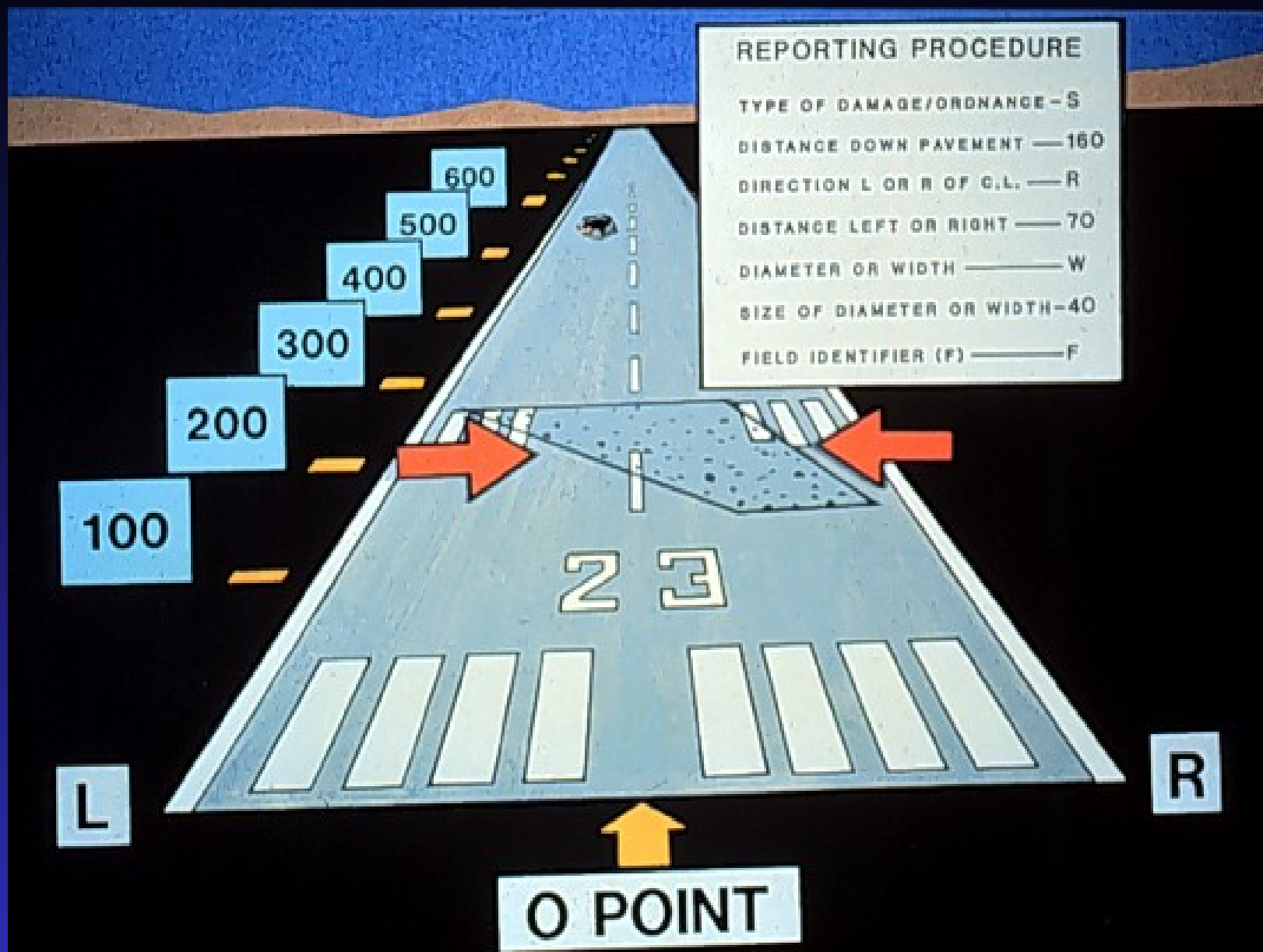




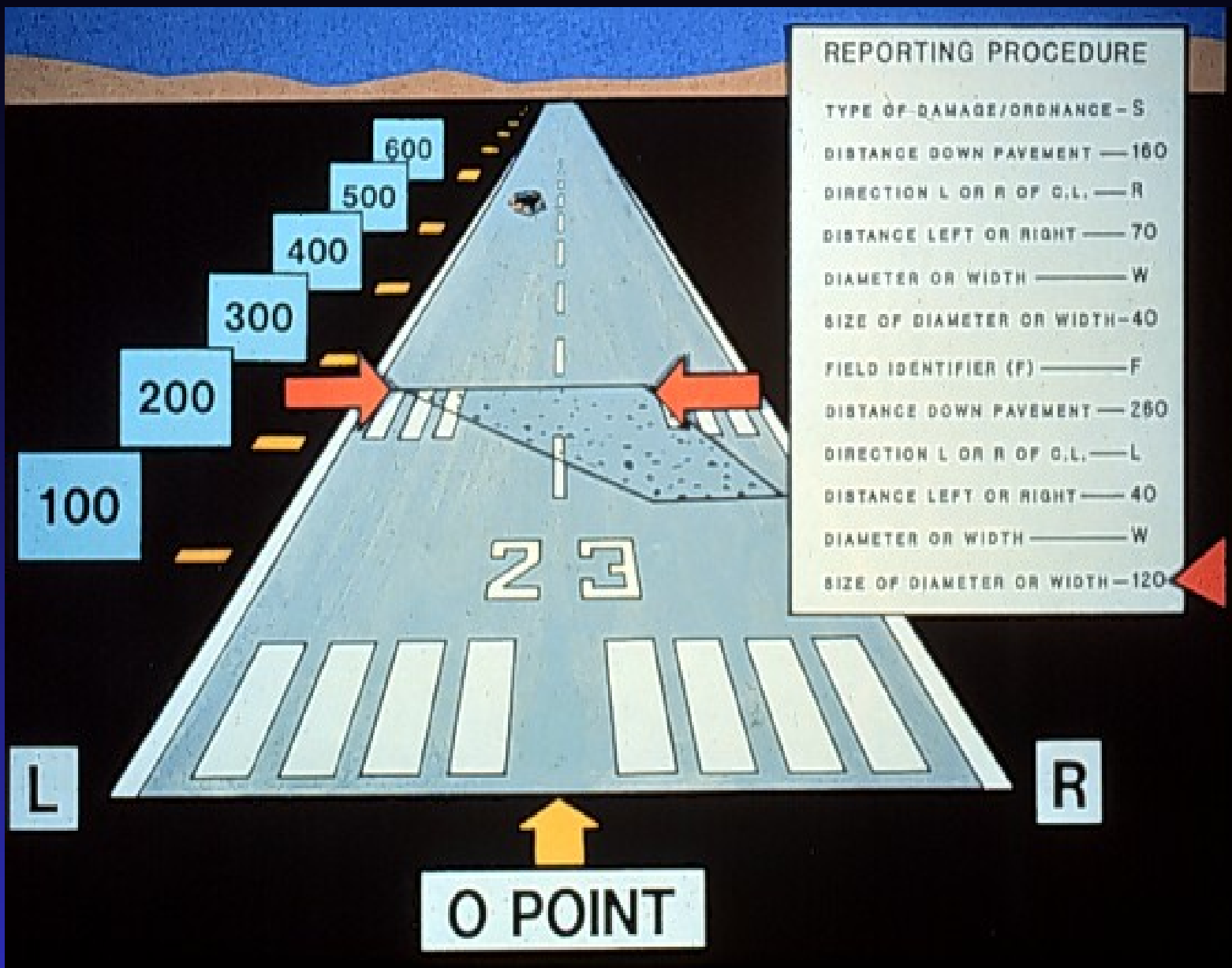


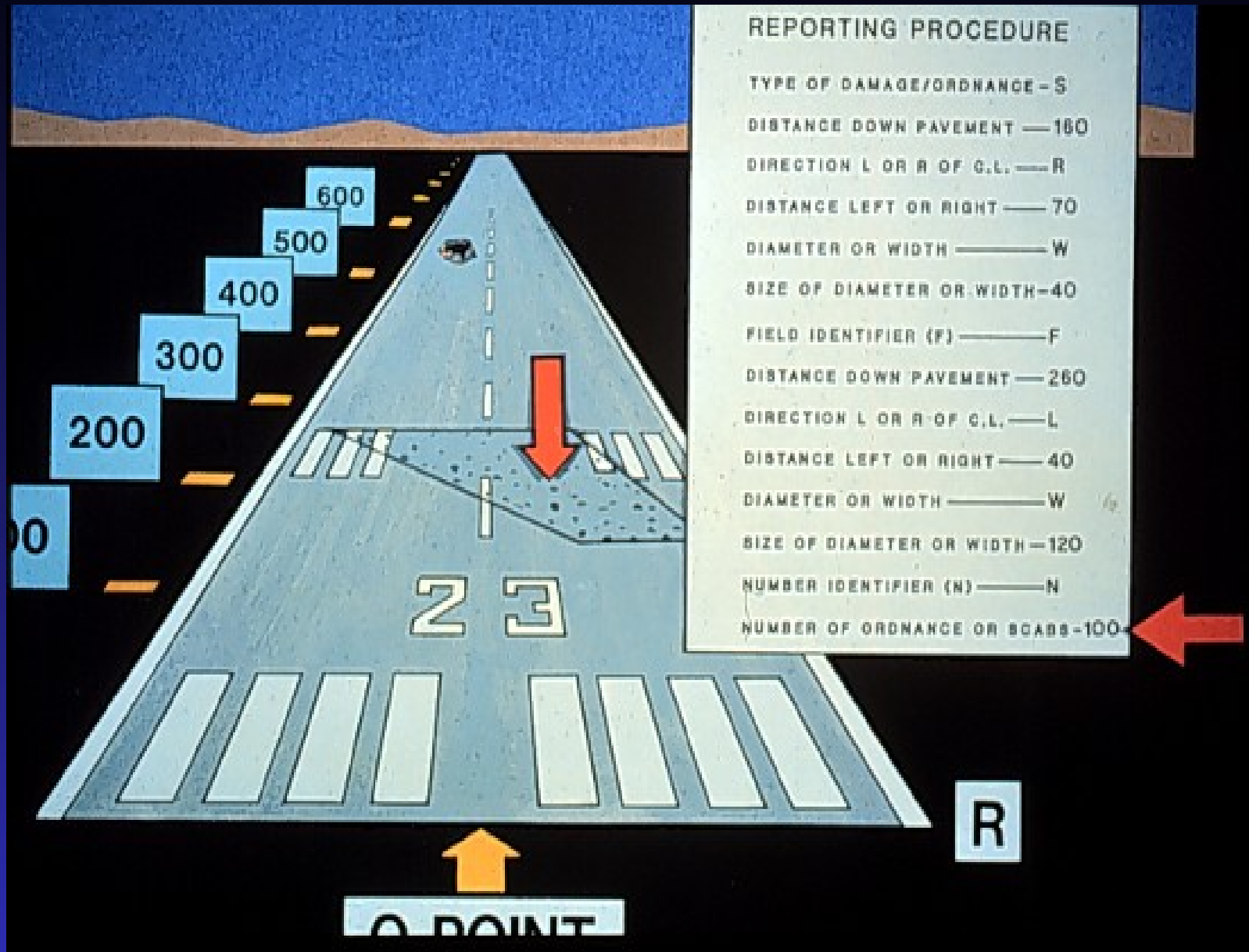


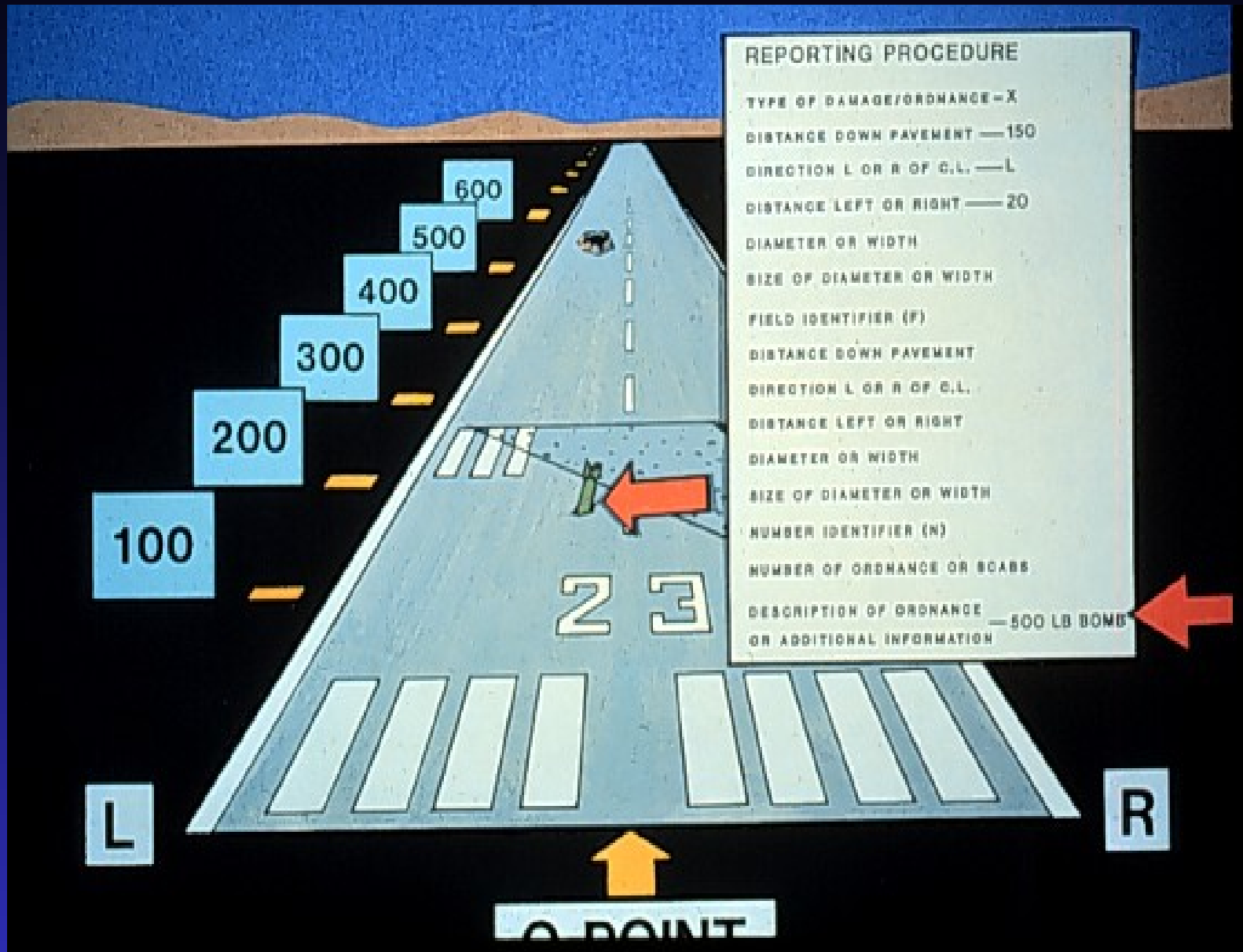














# **DAT**

# **Reporting**

# **and Recording**

# **Practical**



# Plotting Problem #1

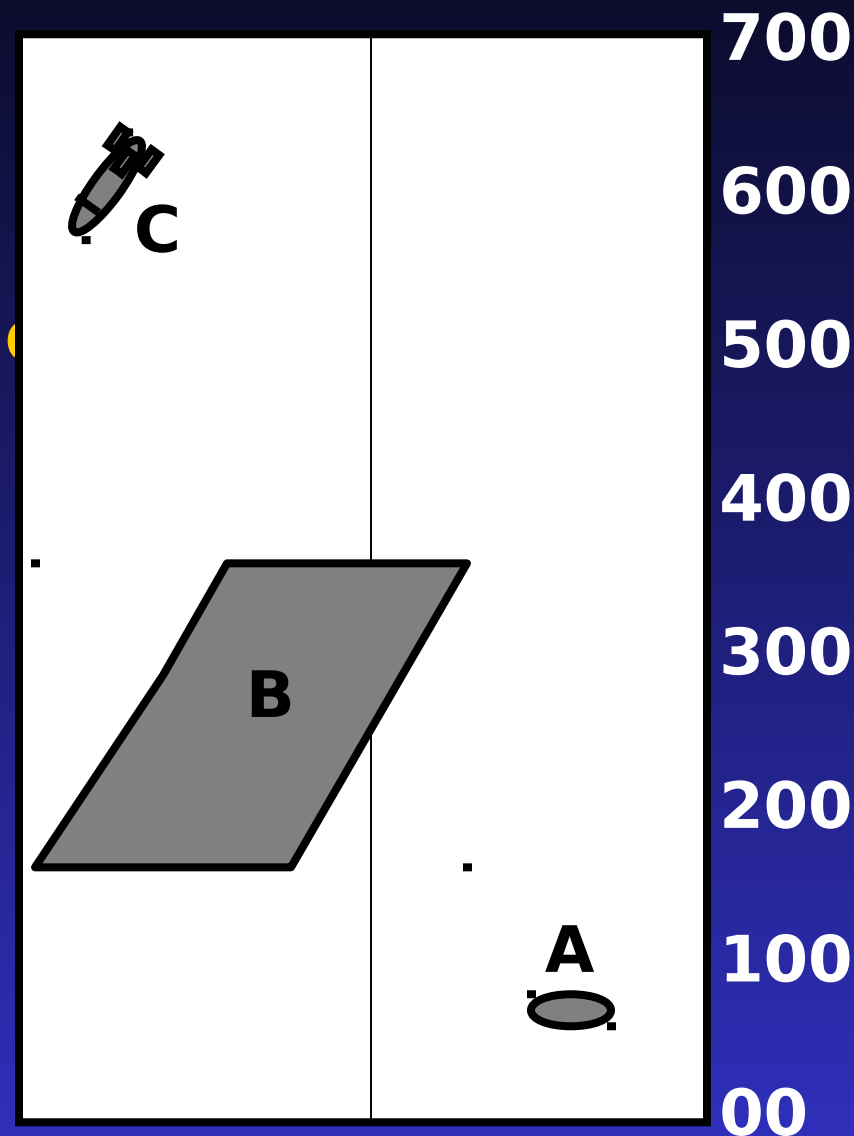
**Record and report the location of the airfield damage shown using the NATO Pavement Reference Marking System**

**Runway width is 200'**

**A = 30' crater**

**B = 250 spalls**

**C = 500lb bomb**





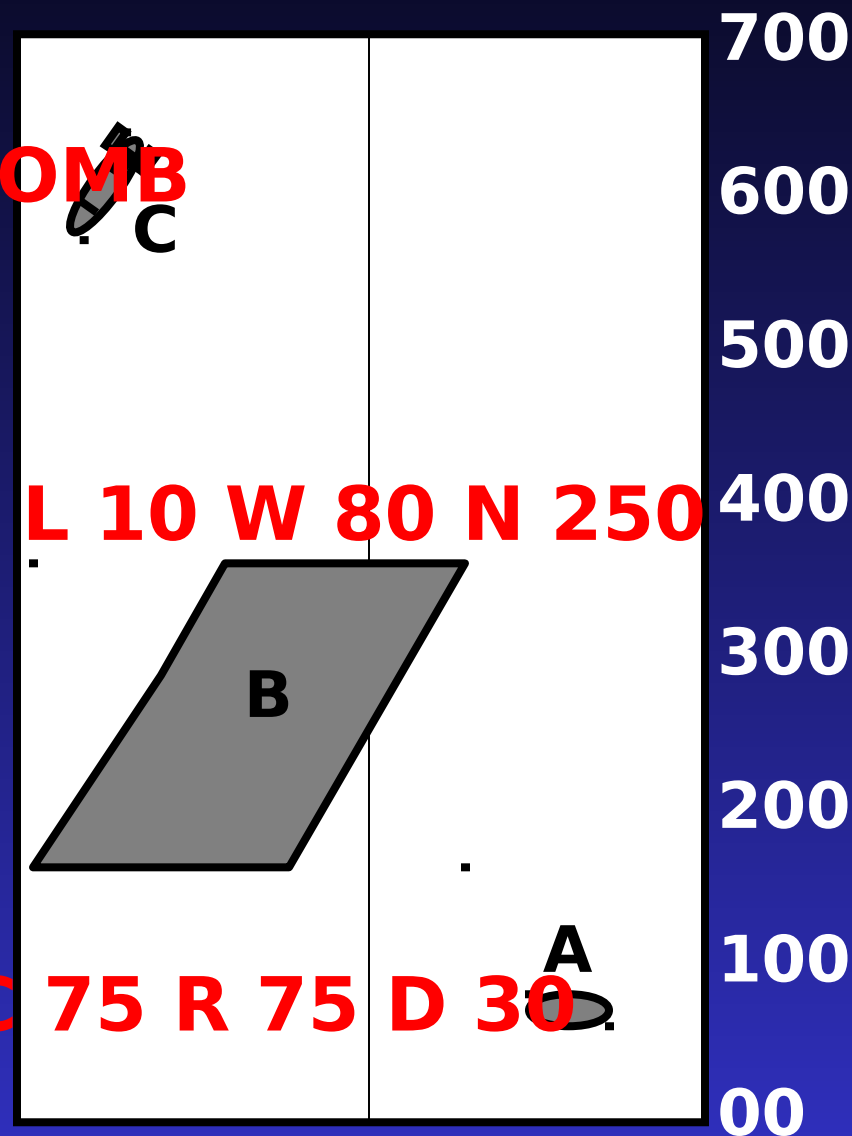
# Plotting Problem #1

## Solutions:

**C = X 600 L 80 - 500lb BOMB**

**B = S 150 L 60 W 80 F 350 L 10 W 80 N 250**

**A = C 75 R 75 D 30**

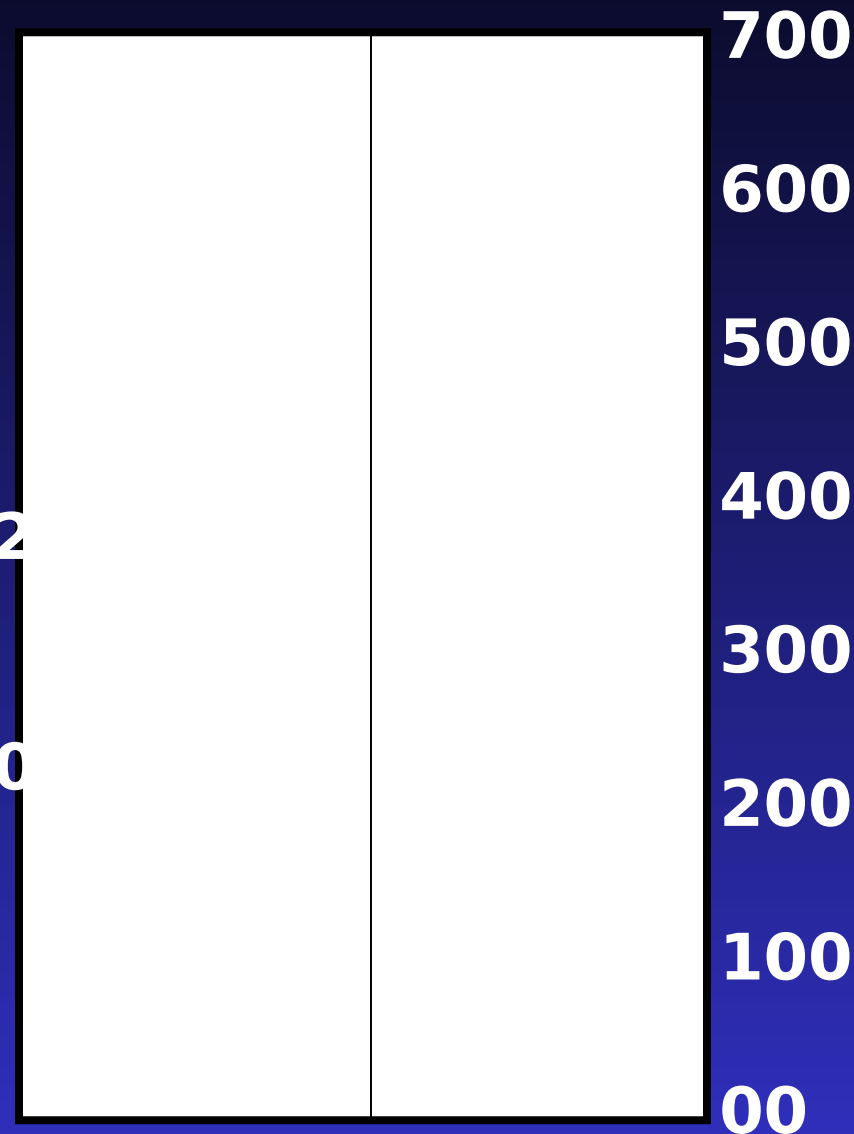




# Plotting Problem #2

**Given the following DAT reports, plot the damage on the airfield map**

- A. C 150 L 75 D 40**
- B. B 500 R 100 W 60 F 650 L 20  
W 80 N 150**
- C. X 350 L 100 - 500LB BOMB**
- D. S 250 L 30 W 20 F 350 R 30  
60 N 250**

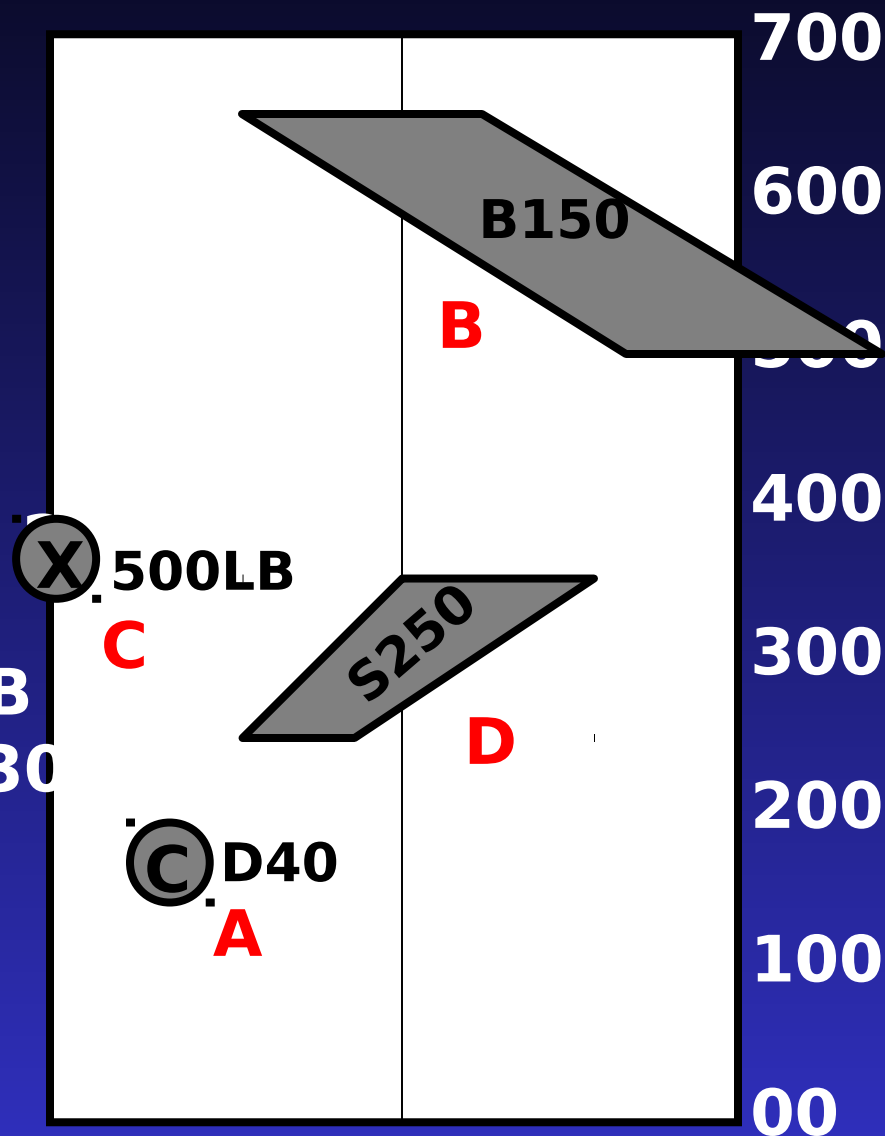




# Plotting Problem #2

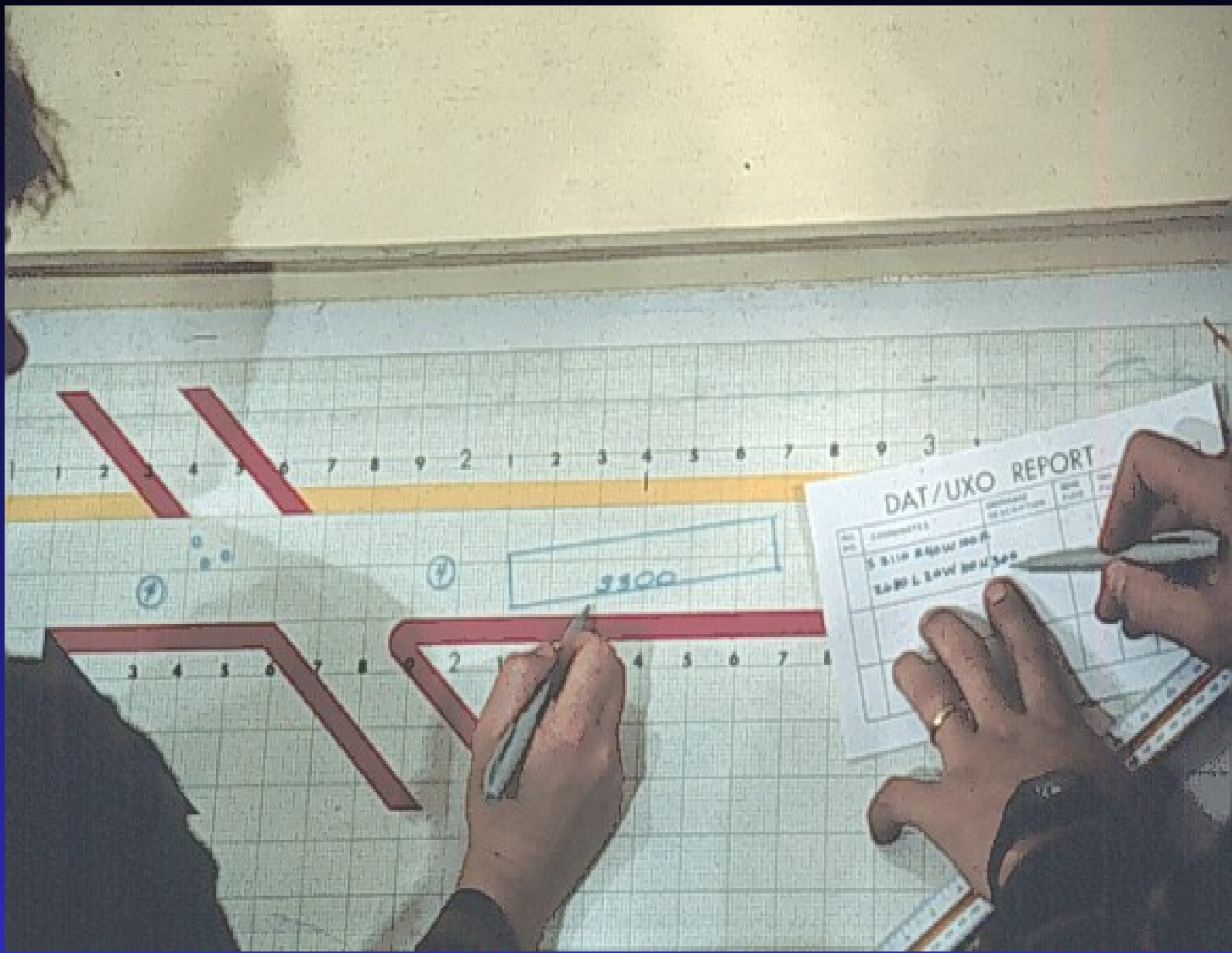
## Solutions:

- A. C 150 L 75 D 40
- B. B 500 R 100 W 60 F 650 L 100  
W 80 N 150
- C. X 350 L 100 - 500LB BOMB
- D. S 250 L 30 W 20 F 350 R 30  
60 N 250

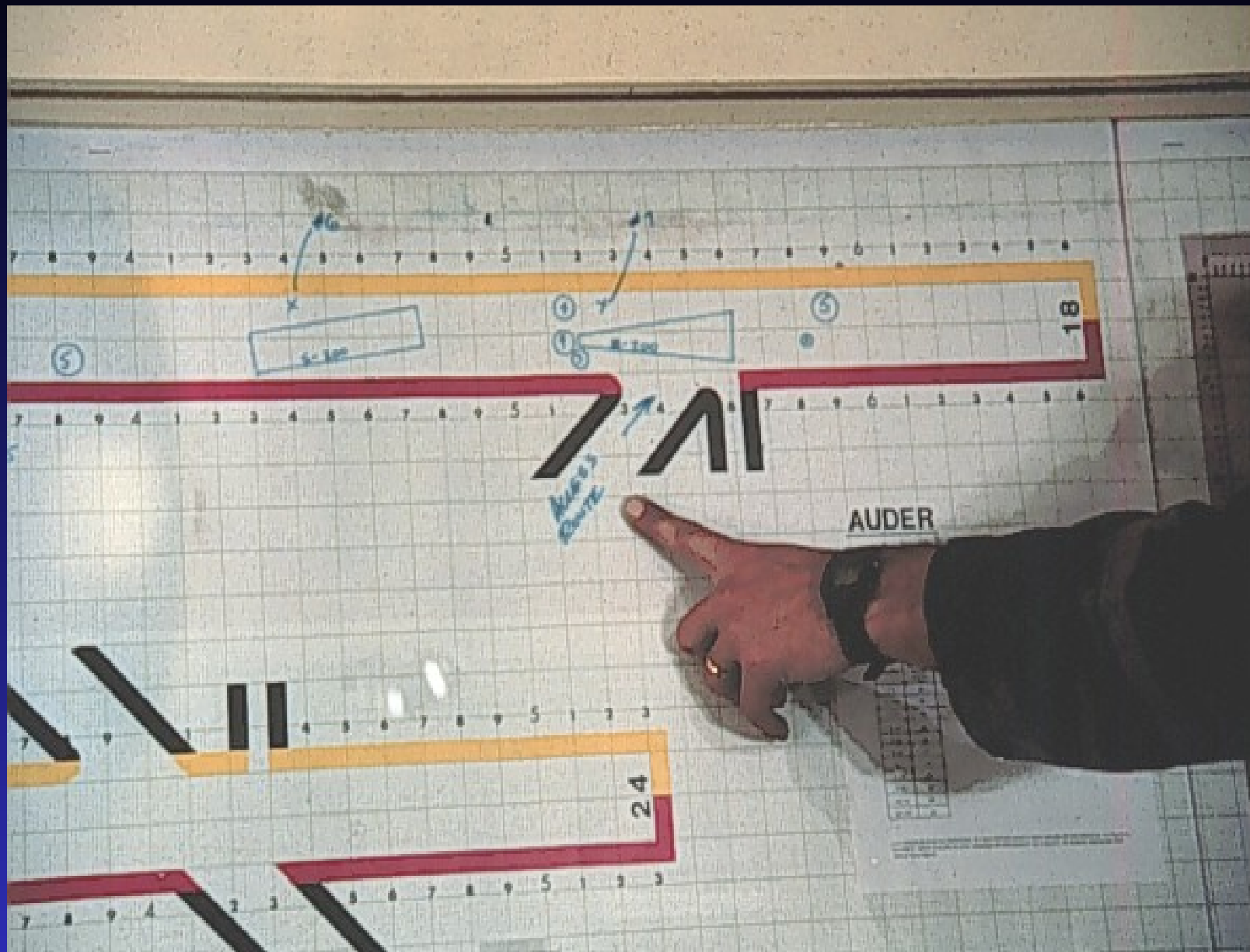


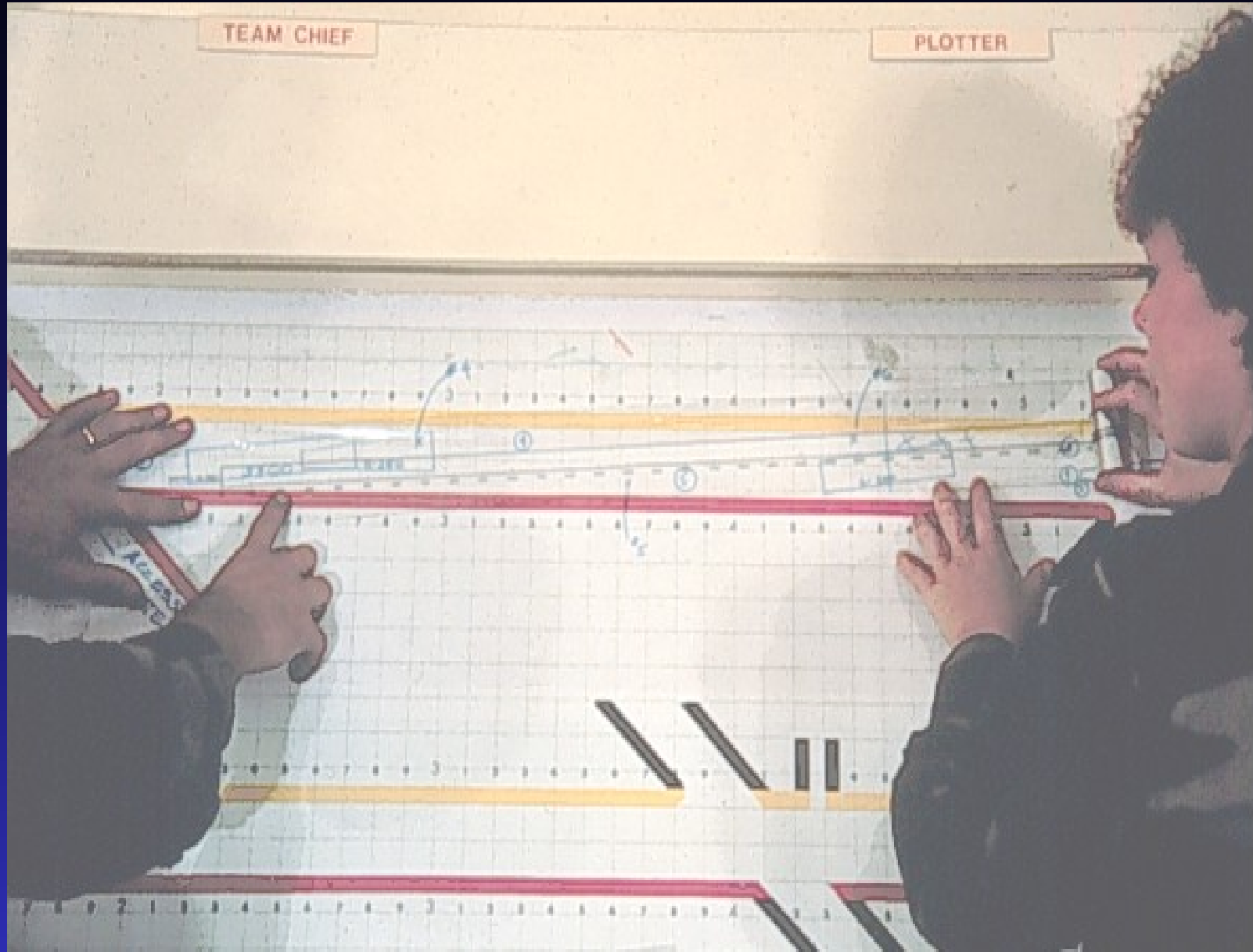




















# Summary

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- Discussed the likely threats to an airfield
- Anticipated damage
- The organization of the DAT
- DAT equipment
- DAT reporting requirements
- How to use the NATO Pavement Reference Marking System to record airfield damage





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